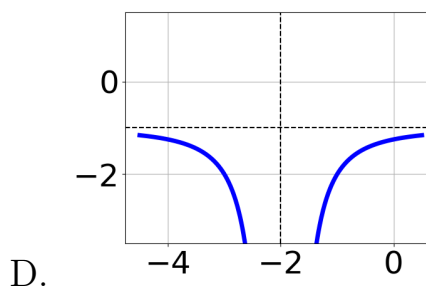
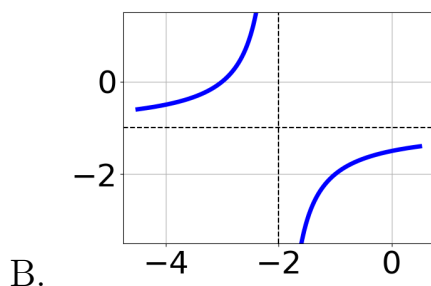
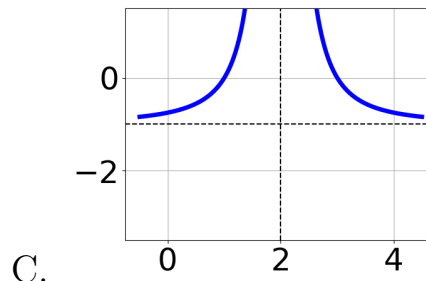
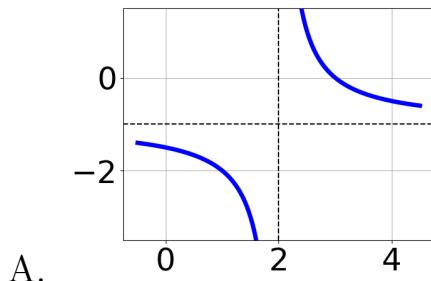


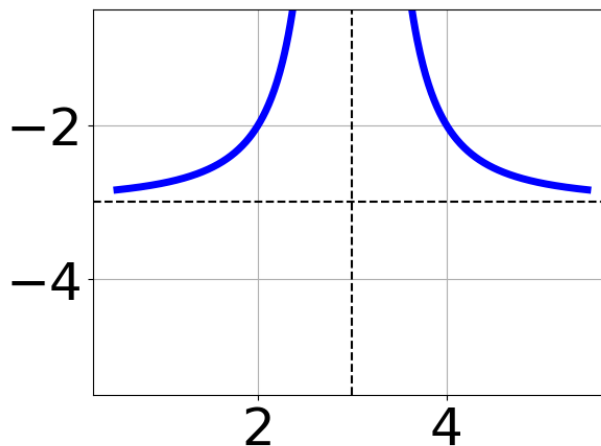
1. Choose the graph of the equation below.

$$f(x) = \frac{1}{x-2} - 1$$



E. None of the above.

2. Choose the equation of the function graphed below.



A. $f(x) = \frac{1}{x-3} - 3$

B. $f(x) = \frac{-1}{x+3} - 3$

C. $f(x) = \frac{-1}{(x+3)^2} - 3$

D. $f(x) = \frac{1}{(x-3)^2} - 3$

E. None of the above

-
3. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-4x}{-7x+4} + \frac{-6x^2}{-28x^2+37x-12} = \frac{3}{4x-3}$$

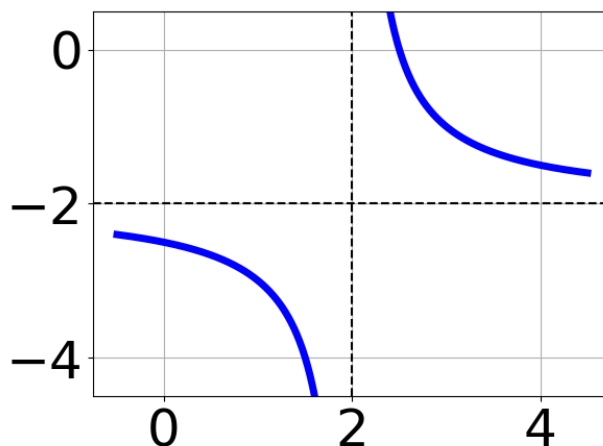
- A. $x \in [0.71, 0.88]$
B. $x_1 \in [0.58, 0.67]$ and $x_2 \in [0.56, 0.72]$
C. All solutions lead to invalid or complex values in the equation.
D. $x \in [0.8, 0.93]$
E. $x_1 \in [0.58, 0.67]$ and $x_2 \in [0.73, 1.12]$

-
4. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{7}{7x-3} + -6 = \frac{5}{-21x+9}$$

- A. $x \in [-0.26, -0.19]$
B. $x_1 \in [0.39, 0.58]$ and $x_2 \in [0.63, 2.63]$
C. All solutions lead to invalid or complex values in the equation.
D. $x \in [0.63, 1.63]$
E. $x_1 \in [-0.26, -0.19]$ and $x_2 \in [0.63, 2.63]$

-
5. Choose the equation of the function graphed below.



A. $f(x) = \frac{1}{(x-2)^2} - 2$

B. $f(x) = \frac{-1}{x+2} - 2$

C. $f(x) = \frac{1}{x-2} - 2$

D. $f(x) = \frac{-1}{(x+2)^2} - 2$

E. None of the above

-
6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{24}{48x+18} + 1 = \frac{24}{48x+18}$$

A. $x \in [-0.1, 1]$

B. All solutions lead to invalid or complex values in the equation.

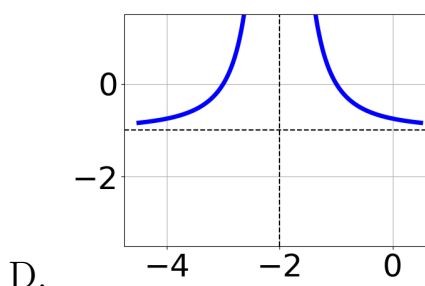
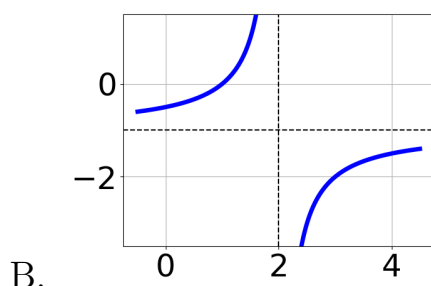
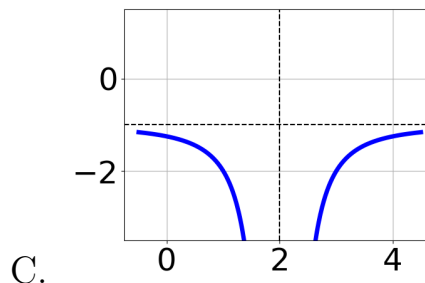
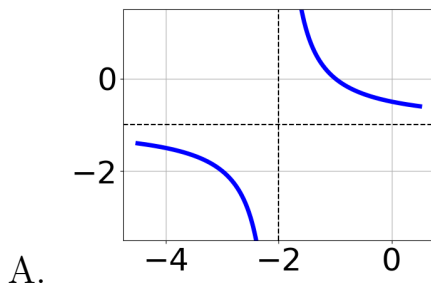
C. $x \in [-1.38, 1.62]$

D. $x_1 \in [-0.5, -0.1]$ and $x_2 \in [-0.1, 1.3]$

E. $x_1 \in [-0.5, -0.1]$ and $x_2 \in [-0.5, 0.2]$

7. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x+2} - 1$$



E. None of the above.

8. Determine the domain of the function below.

$$f(x) = \frac{6}{20x^2 - 8x - 12}$$

- A. All Real numbers except $x = a$ and $x = b$, where $a \in [-17, -11]$ and $b \in [16, 17]$
- B. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.6, 0.4]$ and $b \in [0, 6]$
- C. All Real numbers except $x = a$, where $a \in [-17, -11]$
- D. All Real numbers.
- E. All Real numbers except $x = a$, where $a \in [-1.6, 0.4]$

9. Determine the domain of the function below.

$$f(x) = \frac{3}{25x^2 - 10x - 24}$$

- A. All Real numbers except $x = a$, where $a \in [-1.4, 0.4]$
- B. All Real numbers except $x = a$, where $a \in [-21, -19.1]$
- C. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.4, 0.4]$ and $b \in [0.1, 2.7]$
- D. All Real numbers except $x = a$ and $x = b$, where $a \in [-21, -19.1]$ and $b \in [28.7, 30.2]$
- E. All Real numbers.

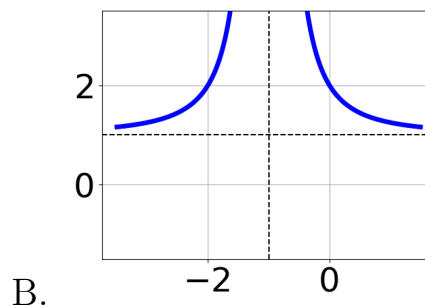
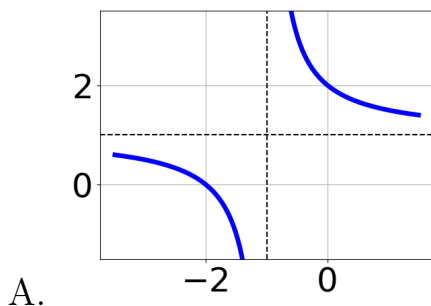
-
10. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

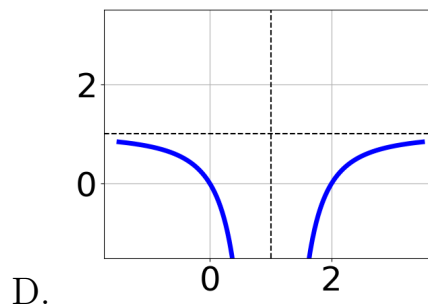
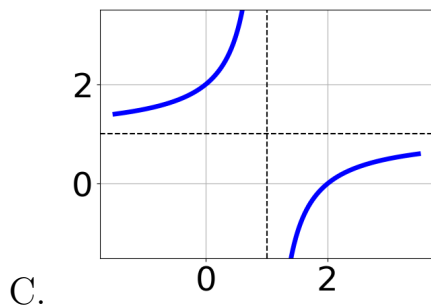
$$\frac{3x}{-6x - 4} + \frac{-7x^2}{-24x^2 + 2x + 12} = \frac{4}{4x - 3}$$

- A. $x_1 \in [-1.55, -0.69]$ and $x_2 \in [-0.21, 0.48]$
- B. $x \in [0.45, 0.96]$
- C. $x \in [-0.84, -0.5]$
- D. All solutions lead to invalid or complex values in the equation.
- E. $x_1 \in [-0.84, -0.5]$ and $x_2 \in [0.56, 0.89]$

-
11. Choose the graph of the equation below.

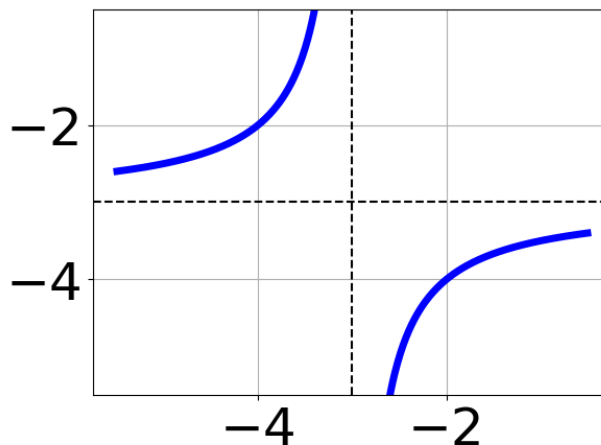
$$f(x) = \frac{1}{(x - 1)^2} + 1$$





E. None of the above.

12. Choose the equation of the function graphed below.



A. $f(x) = \frac{1}{(x-3)^2} - 4$

B. $f(x) = \frac{1}{x-3} - 4$

C. $f(x) = \frac{-1}{x+3} - 4$

D. $f(x) = \frac{-1}{(x+3)^2} - 4$

E. None of the above

13. Solve the rational equation below. Then, choose the interval(s) that

the solution(s) belongs to.

$$\frac{5x}{5x-7} + \frac{-3x^2}{-20x^2+43x-21} = \frac{-4}{-4x+3}$$

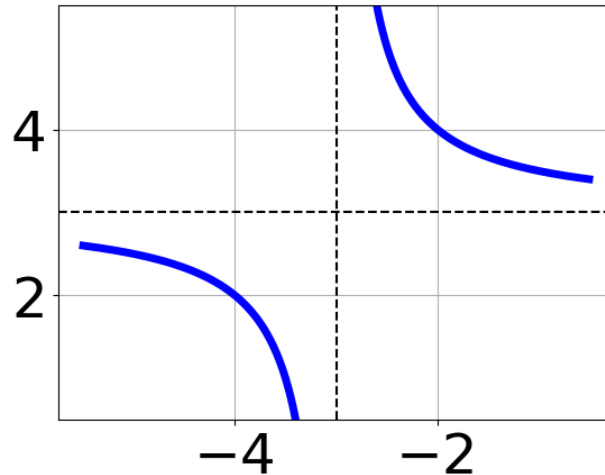
- A. $x_1 \in [1.73, 2.02]$ and $x_2 \in [0.03, 0.4]$
 - B. All solutions lead to invalid or complex values in the equation.
 - C. $x_1 \in [1.08, 1.47]$ and $x_2 \in [0.57, 0.79]$
 - D. $x \in [1.08, 1.47]$
 - E. $x \in [-0.56, 0.93]$
-

14. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{72}{18x+18} + 1 = \frac{72}{18x+18}$$

- A. All solutions lead to invalid or complex values in the equation.
 - B. $x_1 \in [-1, 0]$ and $x_2 \in [-1, 0]$
 - C. $x \in [0, 3]$
 - D. $x_1 \in [-1, 0]$ and $x_2 \in [1, 2]$
 - E. $x \in [-1.0, 0.0]$
-

15. Choose the equation of the function graphed below.



- A. $f(x) = \frac{1}{(x+3)^2} + 3$
- B. $f(x) = \frac{-1}{(x-3)^2} + 3$
- C. $f(x) = \frac{1}{x+3} + 3$
- D. $f(x) = \frac{-1}{x-3} + 3$
- E. None of the above

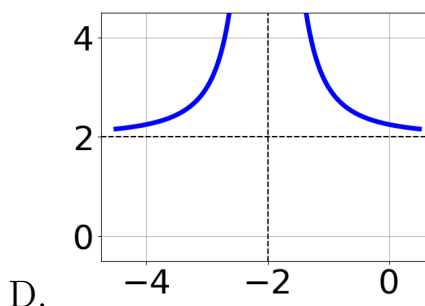
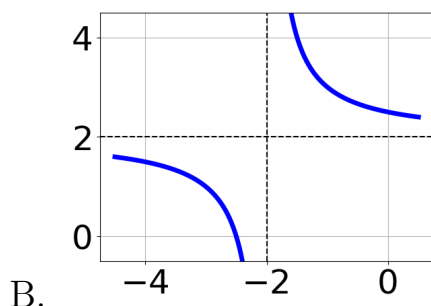
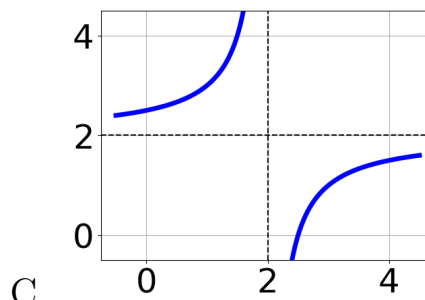
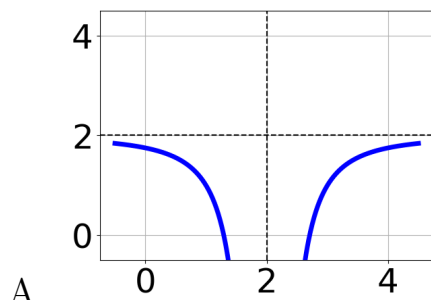
16. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-8}{-6x+2} + -9 = \frac{-9}{48x-16}$$

- A. $x \in [0.5, 2.5]$
- B. $x_1 \in [-0.29, 0.02]$ and $x_2 \in [-1.5, 3.5]$
- C. All solutions lead to invalid or complex values in the equation.
- D. $x \in [-0.29, 0.02]$
- E. $x_1 \in [0.09, 0.41]$ and $x_2 \in [-1.5, 3.5]$

17. Choose the graph of the equation below.

$$f(x) = \frac{1}{x+2} - 2$$



E. None of the above.

18. Determine the domain of the function below.

$$f(x) = \frac{4}{20x^2 - 54x + 36}$$

A. All Real numbers.

B. All Real numbers except $x = a$ and $x = b$, where $a \in [23.82, 24.02]$ and $b \in [29.77, 30.1]$

C. All Real numbers except $x = a$, where $a \in [23.82, 24.02]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [0.78, 1.31]$ and $b \in [1.33, 1.73]$

E. All Real numbers except $x = a$, where $a \in [0.78, 1.31]$

19. Determine the domain of the function below.

$$f(x) = \frac{3}{12x^2 - 42x + 36}$$

- A. All Real numbers except $x = a$, where $a \in [17.7, 20.1]$
 - B. All Real numbers.
 - C. All Real numbers except $x = a$ and $x = b$, where $a \in [0, 1.6]$ and $b \in [1.8, 2.3]$
 - D. All Real numbers except $x = a$, where $a \in [0, 1.6]$
 - E. All Real numbers except $x = a$ and $x = b$, where $a \in [17.7, 20.1]$ and $b \in [22.7, 24.9]$
-

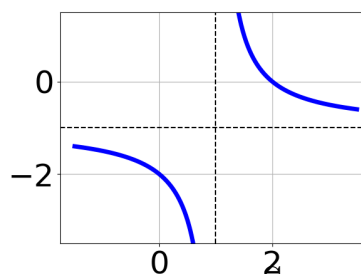
20. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-4x}{3x+3} + \frac{-2x^2}{-21x^2 - 12x + 9} = \frac{7}{-7x+3}$$

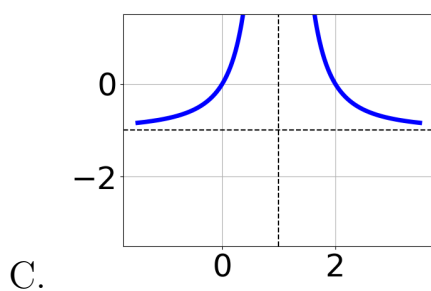
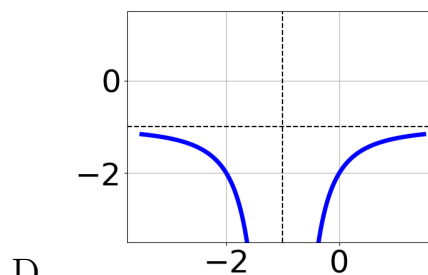
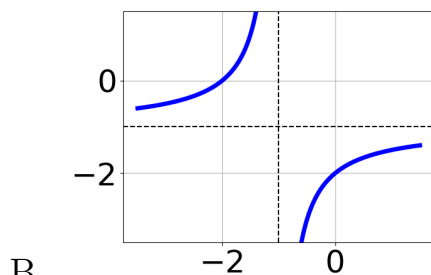
- A. $x_1 \in [-0.53, -0.32]$ and $x_2 \in [-1.3, -0.4]$
 - B. All solutions lead to invalid or complex values in the equation.
 - C. $x_1 \in [-0.53, -0.32]$ and $x_2 \in [0.1, 1.9]$
 - D. $x \in [0.36, 0.88]$
 - E. $x \in [1.51, 2.18]$
-

21. Choose the graph of the equation below.

$$f(x) = \frac{-1}{(x+1)^2} - 1$$

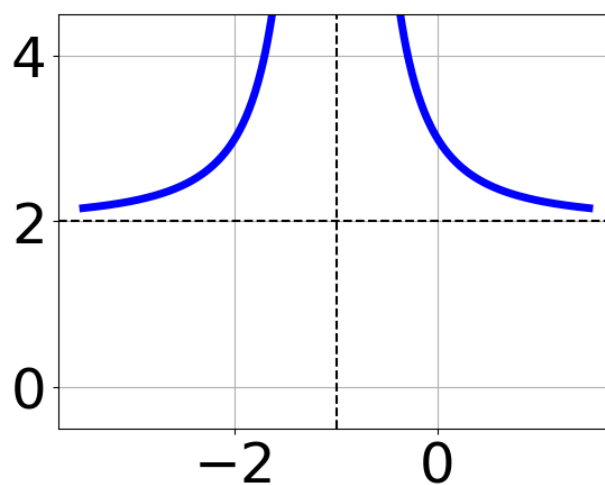


A.



E. None of the above.

22. Choose the equation of the function graphed below.



A. $f(x) = \frac{1}{(x+1)^2} + 2$

B. $f(x) = \frac{1}{x+1} + 2$

C. $f(x) = \frac{-1}{x-1} + 2$

D. $f(x) = \frac{-1}{(x-1)^2} + 2$

E. None of the above

23. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{7x}{-3x+2} + \frac{-4x^2}{-15x^2-2x+8} = \frac{3}{5x+4}$$

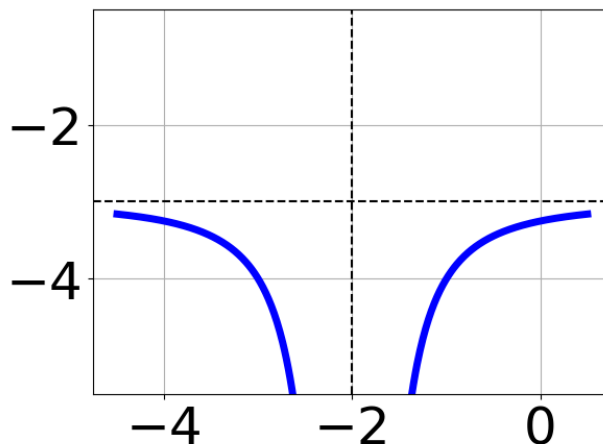
- A. $x_1 \in [-0.23, 0.38]$ and $x_2 \in [-0.4, 2.07]$
B. $x \in [-1.01, -0.56]$
C. $x \in [-1.6, -1.11]$
D. $x_1 \in [-0.23, 0.38]$ and $x_2 \in [-1.8, -1.25]$
E. All solutions lead to invalid or complex values in the equation.
-

24. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-63}{63x-21} + 1 = \frac{-63}{63x-21}$$

- A. $x_1 \in [-1.1, 0]$ and $x_2 \in [0.33, 2.33]$
B. $x \in [-1.1, 0]$
C. $x \in [0.33, 2.33]$
D. All solutions lead to invalid or complex values in the equation.
E. $x_1 \in [-0.1, 0.6]$ and $x_2 \in [0.33, 2.33]$
-

25. Choose the equation of the function graphed below.



- A. $f(x) = \frac{1}{x+2} - 3$
- B. $f(x) = \frac{-1}{(x-2)^2} - 3$
- C. $f(x) = \frac{1}{(x+2)^2} - 3$
- D. $f(x) = \frac{-1}{x-2} - 3$
- E. None of the above

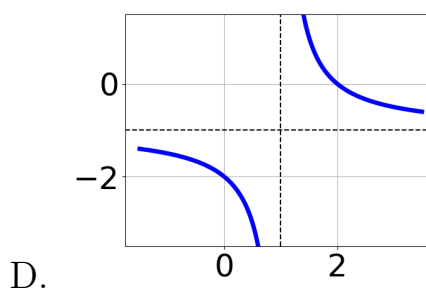
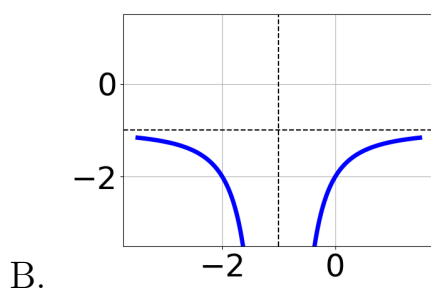
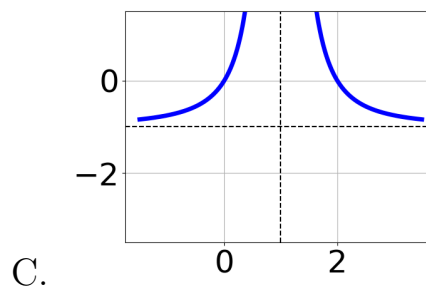
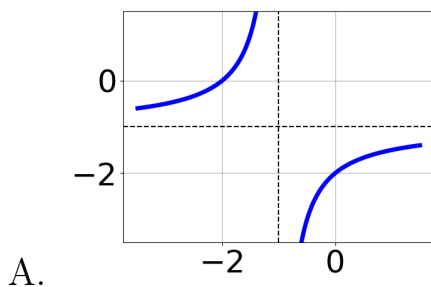
26. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-5}{-6x+2} + 8 = \frac{-6}{-12x+4}$$

- A. $x_1 \in [0.03, 0.67]$ and $x_2 \in [0.34, 0.41]$
- B. $x \in [0.29, 1.29]$
- C. $x_1 \in [-0.4, -0.35]$ and $x_2 \in [0.13, 0.33]$
- D. All solutions lead to invalid or complex values in the equation.
- E. $x \in [-0.4, -0.35]$

27. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x-1} - 1$$



E. None of the above.

28. Determine the domain of the function below.

$$f(x) = \frac{6}{12x^2 - 33x + 18}$$

- A. All Real numbers except $x = a$, where $a \in [0.75, 1.75]$
- B. All Real numbers.
- C. All Real numbers except $x = a$, where $a \in [11, 14]$
- D. All Real numbers except $x = a$ and $x = b$, where $a \in [11, 14]$ and $b \in [18, 20]$
- E. All Real numbers except $x = a$ and $x = b$, where $a \in [0.75, 1.75]$ and $b \in [2, 4]$

29. Determine the domain of the function below.

$$f(x) = \frac{6}{18x^2 - 6x - 12}$$

- A. All Real numbers.
 - B. All Real numbers except $x = a$, where $a \in [-1.67, 0.33]$
 - C. All Real numbers except $x = a$ and $x = b$, where $a \in [-25, -21]$ and $b \in [5, 11]$
 - D. All Real numbers except $x = a$, where $a \in [-25, -21]$
 - E. All Real numbers except $x = a$ and $x = b$, where $a \in [-1.67, 0.33]$ and $b \in [0, 3]$
-

30. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{6x}{7x+3} + \frac{-3x^2}{35x^2 - 27x - 18} = \frac{6}{5x-6}$$

- A. $x \in [1.92, 3.52]$
 - B. $x_1 \in [-0.41, 0.06]$ and $x_2 \in [1.1, 6.1]$
 - C. $x_1 \in [-0.41, 0.06]$ and $x_2 \in [-6.43, 0.57]$
 - D. All solutions lead to invalid or complex values in the equation.
 - E. $x \in [0.93, 1.32]$
-